

REMARKS

In the foregoing claim amendments, claims 1 and 5 are amended. Now pending in the application are claims 1-8, of which claims 1 and 5 are independent. The following comments address all stated grounds for rejection and place the presently pending claims, as identified above, in condition for allowance.

Claim Amendments

Applicants amend claims 1 and 5 to clarify the scope of the claimed invention. In particular, claims 1 and 5 are amended to recite that the heating unit heats the hydrogen occlusion tank by using the *mixed air which is supplied through a duct*. Support for the claim amendments could be found in Fig. 1 and corresponding description in the Specification. No new matter is introduced.

Claim Rejections under 35 U.S.C. §102

Claims 1, 5, 6 and 8 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,962,155, Kuranaka *et al.* ("Kuranaka") Applicants respectfully traverse this rejection for the following reasons.

Claims 1 and 5 are directed to a hydrogen supply device including a hydrogen-using apparatus (claim 1) or fuel cell (claim 5), a hydrogen occlusion tank, a hydrogen supply unit, a mixing unit and a heating unit. The heating unit heats the hydrogen occlusion tank by using *mixed air which is supplied through a duct*.

Applicants respectfully submit that the cited prior art fails to disclose each and every element of the claimed invention. Applicants submit that Kuranaka fails to disclose that the hydrogen occlusion tank is heated by using *mixed air which is supplied through a duct*, as recited in claims 1 and 5. Kuranaka discloses in FIG. 5 that the outside air is introduced into a housing (6) by two fans (5, 16). This air is mixed by the fans (5, 16) and heated by the heat generated in a PEM (1). The heated air is used to heat a hydrogen storage vessel (2) in the

housing (6). Kuranaka dos not disclose that the hydrogen storage vessel is heated by using *mixed air which is supplied through a duct*.

Since both the hydrogen storage vessel (2) and the PEM (1) are provided within the same housing (6) in the Kuranaka reference, the temperature of the mixed air which is used to heat the hydrogen storage vessel (2) is determined by the temperature of the PEM, and cannot be controlled.

In contrast, in the claimed invention, the amount of heat required to maintain the predetermined temperature in the hydrogen occlusion tank is applied to the hydrogen occlusion tank by mixing the outside air, the inside air, and the heated outside air according to a predetermined ratio at a mixing unit (See, ducts 21, 23, and 25 in Fig 1), and by supplying the air whose temperature is controlled as a result of mixing air to the hydrogen occlusion tank. (See, Page 7, lines 23-29 of the Specification). Therefore, the temperature of the air supplied to the hydrogen occlusion tank can be controlled regardless of the amount of heat exhausted from a hydrogen-using apparatus, and an amount of hydrogen released from the hydrogen occlusion tank can be controlled accurately.

In light of the aforementioned claim amendments and arguments, Applicants submit that Kuranaka fails to disclose each and every element of claims 1 and 5. Applicants therefore request the Examiner withdraw the rejections of claims 1, 5, 6 and 8 under 35 U.S.C. §102(b) and pass the claims to allowance.

Claim Rejections under 35 U.S.C. §103

Claims 3, 4 and 7 are rejected under 35 U.S.C. §103(a) as being unpatentable over the Kuranaka reference in view of U.S. Patent No. 5,366,820 to Tsutsumi et al. ("Tsutsumi"). Applicants respectfully traverse this rejection for the following reasons.

Claims 3, 4 and 7 depend on one of claims 1 and 5 and add separate and patentable limitations to claims 1 and 5.

Tsutsumi is cited by the Examiner to provide limitations added in claims 3, 4, and 7. Applicants respectfully submit that the cited prior art references fail to teach or suggest all of the limitations of claims 1 and 5. Applicants submit that Tsutsumi also fails to teach that the hydrogen occlusion tank is heated by using *mixed air which is supplied through a duct*, as recited in claims 1 and 5. Tsutsumi teaches a fuel cell system that includes a main hydrogen absorbing alloy and an auxiliary hydrogen absorbing alloy. Tsutsumi does not teach a hydrogen occlusion tank that is heated by using *mixed air which is supplied through a duct*.

Furthermore, with regard to claim 4, the Examiner notes that the control of the flow amount of the fans can easily be conceived by a person skilled in the art. Applicants respectfully disagree. When the flow amount is controlled by the fans in Kuranaka, the temperature of the air supplied to the hydrogen occlusion tank cannot be controlled accurately although the flow rate of air can be changed. In contrast, the claimed invention can control the temperature of the air supplied to the hydrogen occlusion tank accurately.

In light of the aforementioned claim amendments and arguments, Applicants submit that the cited references fail to teach or suggest all of the limitations of claims 1 and 5. Claims 3, 4 and 7, which depend on one of the claims 1 and 5, are not rendered obvious over the cited references. Applicants therefore submit that claims 3, 4 and 7 are in condition for allowance.

Claim Rejections under 35 U.S.C. §103

Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over the Kuranaka reference. Applicants respectfully traverse this rejection for the following reasons.

Claim 2 depends on claim 1 and adds a separate and patentable limitation to claim 1.

Applicants respectfully submit that the cited prior art reference fails to teach or suggest all of the limitations of claim 1. Applicants submit that Kuranaka fails to teach or suggest that the hydrogen occlusion tank is heated by using *mixed air which is supplied through a duct*, as recited in claim 1. Kuranaka teaches in FIG. 5 that the outside air is introduced into a housing (6) by two fans (5, 16). This air is mixed by the fans (5, 16) and heated by the heat generated in

a PEM (1). The heated air is used to heat a hydrogen storage vessel (2) in the housing (6). Kuranaka does not teach that the hydrogen storage vessel is heated by using *mixed air which is supplied through a duct*.

In light of the aforementioned claim amendments and arguments, Applicants submit that Kuranaka fails to teach or suggest all of the limitations of claim 1. Claim 2, which depends on the claim 1, is not rendered obvious over the cited references. Applicants therefore submit that claim 2 is in condition for allowance.


CONCLUSION

Applicant believes no fee is due with this statement. However, if a fee is due, please charge our Deposit Account No. 12-0080, under Order No. SIW-015 from which the undersigned is authorized to draw.

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Respectfully submitted,

By


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